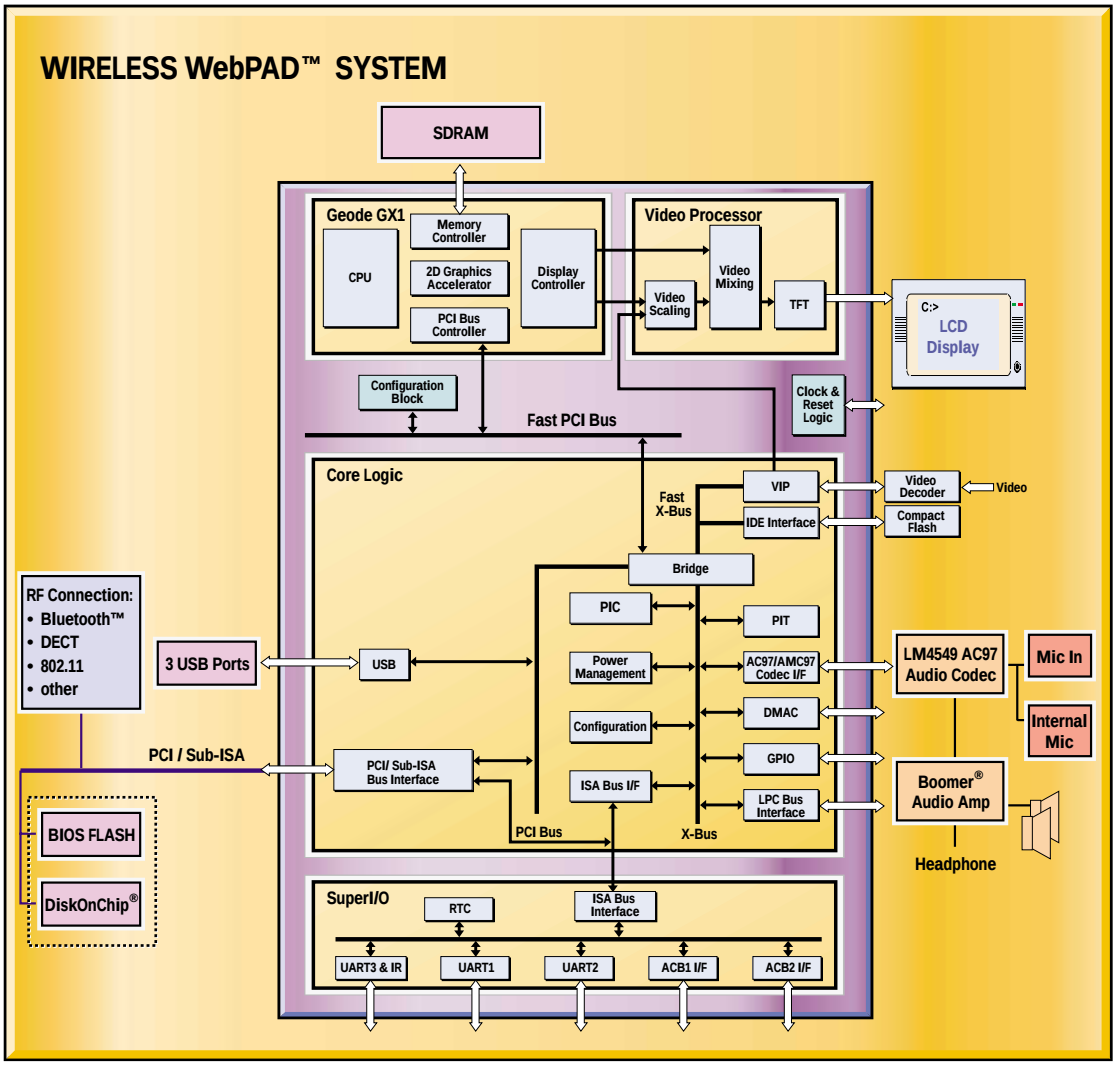
Geode™ SC3200

Integrated Processor



Personal Access Device

Product Overview

Information Appliances - a new industry

As the world moves away from all-purpose computers and toward a new class of information appliances, National is leading the way with systems-on-a-chip.

These highly integrated chips vastly simplify the design, manufacture, and power requirements of a whole new class of information appliances.

Mobile WebPAD information appliances are affordable, reliable and easy-to-use. They offer "instant on" access to all the benefits of the Internet from anywhere in the home.

For the full range of devices available from National, visit our Web site:

ia.national.com

The National Semiconductor Geode™ SC3200 processor is a member of the National Information Appliances on-a-Chip family of fully integrated x86 system chips. The SC3200 single-chip processor includes a Geode GX1 32-bit x86 compatible processor, a TFT video processor, core logic, and selected SuperI/O functions. Excluding memory and the wireless communications subsystem, the features on the Geode SC3200 processor provide all the functionality needed to create a small form factor and low power consumption wireless WebPAD™ Personal Access Device (PAD).

x86 Architecture

The x86 architecture means Internet compatibility. With more than 300 web plug-ins written to run exclusively on x86 processors, the Geode processor family provides a web experience unattainable with non-x86 based architectures.

The integrated architecture of the Geode SC3200 processor simplifies system design by reducing component count, the size of the main system board, and overall system power consumption. It can significantly lower overall system costs while improving time-to-market.

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Technical Specifications

Primary Components

- The SC3200 is based on the Geode GX1 integrated processor core which combines advanced CPU performance with MMX™ support, fully accelerated 2D graphics, a 64-bit synchronous DRAM (SDRAM) interface, and an internal PCI bus controller
- Low power consumption TFT display processor, with a hardware video accelerator for scaling, filtering, and color space conversion
- Core logic includes PC AT functionality, a Universal Serial Bus (USB) interface, video input port, ACPI 1.0 compliant power management, and an audio codec interface
- SuperI/O block, including two serial ports, an infrared (IR) port, an ACCESS.bus™ interface, and a Real Time Clock (RTC)

The block diagram on the previous page shows the relationships between the functional blocks in the Geode SC3200 processor.

Outstanding Features

- 32-bit x86 processor running up to 266 MHz, with MMX instruction set support
- 64-bit SDRAM memory controller supporting up to 100 MHz operation
- 2D graphics accelerator
- Video processor with hardware accelerator supports scaling, filtering, and color space conversion (for video overlay)
- CCIR-656 video input port
- PCI bus controller
- Low Pin Count (LPC) bus controller
- IDE interface
- Three OpenHCI 1.0 compliant USB ports
- AC97/AMC97 2.0 compliant audio controller
- Three RS232 serial port controllers, UART1, UART2 and UART3, including fast infrared functionality
- Two ACCESS.bus (ACB) interfaces
- ACPI 1.0 compliant power management
- Real Time Clock (RTC)
- Virtual System Architecture® (VSA™) support
- 432 enhanced BGA package

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